AMENDA

#9/K.T. 11-15-01
RAW SEQ listing

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/545,334B

DATE: 07/26/2001
TIME: 10:33:53

Input Set : A:\0803.SEQLIST.txt
Output Set: N:\CRF3\07262001\I545334B.raw

<110> APPLICANT: Zinselmeier, Chris
Habben, Jeff
Tomes, Dwight

<120> TITLE OF INVENTION: Regulated Expression of Genes in Plant Seeds

<130> FILE REFERENCE: 0803

<140> CURRENT APPLICATION NUMBER: US 09/545,334B

<141> CURRENT FILING DATE: 2000-04-07

<150> PRIOR APPLICATION NUMBER: US 60/129,844

<151> PRIOR FILING DATE: 1999-04-16

<160> NUMBER OF SEQ ID NOS: 12

<170> SOFTWARE: FastSEQ for Windows Version 3.0

<210> SEQ ID NO: 1

<211> LENGTH: 1608

<212> TYPE: DNA

<213> ORGANISM: Zea mays

<220> FEATURE:

<221> NAME/KEY: CDS

<222> LOCATION: (1)...(1605)

<400> SEQUENCE: 1

```
atg gcg gtg gtt tat tac ctg ctg ctg gcc ggg ctg atc gcc tgc tct       48
Met Ala Val Val Tyr Tyr Leu Leu Leu Ala Gly Leu Ile Ala Cys Ser
 1               5                  10                  15

cat gca cta gcg gca ggc acg ctt gcg ctc gga gaa gat cgc ggc cgt       96
His Ala Leu Ala Ala Gly Thr Leu Ala Leu Gly Glu Asp Arg Gly Arg
            20                  25                  30

ccc tgg cca gcc ttc ctc gcc gcg ctg gcc ttg gac ggc aag ctc cgg      144
Pro Trp Pro Ala Phe Leu Ala Ala Leu Ala Leu Asp Gly Lys Leu Arg
        35                  40                  45

acc gac agc aac gcg acg gcg gcg gcc tcg acg gac ttc ggc aac atc      192
Thr Asp Ser Asn Ala Thr Ala Ala Ala Ser Thr Asp Phe Gly Asn Ile
    50                  55                  60

acg tcg gcg ctc ccg gcg gcg gtc cta tac ccg tcg tcc acg ggc gac      240
Thr Ser Ala Leu Pro Ala Ala Val Leu Tyr Pro Ser Ser Thr Gly Asp
65                  70                  75                  80

ctg gtg gcg ctg ctg agc gcg gcc aac tcc acc ccg ggg tgg ccc tac      288
Leu Val Ala Leu Leu Ser Ala Ala Asn Ser Thr Pro Gly Trp Pro Tyr
                85                  90                  95

acc atc gcg ttc cgc ggc cgc ggc cac tcc ctc atg ggc cag gcc ttc      336
Thr Ile Ala Phe Arg Gly Arg Gly His Ser Leu Met Gly Gln Ala Phe
            100                 105                 110

gcc ccc ggc ggg gtg gtc gtc aac atg gcg tcc ctg ggc gac gcc gcc      384
Ala Pro Gly Gly Val Val Val Asn Met Ala Ser Leu Gly Asp Ala Ala
        115                 120                 125

gcc gcc gcg ccg ccg cgc gtc aac gtg tcc gcg gac ggc cgc tac gtg      432
Ala Ala Ala Pro Pro Arg Val Asn Val Ser Ala Asp Gly Arg Tyr Val
    130                 135                 140
```

RAW SEQUENCE LISTING DATE: 07/26/2001
PATENT APPLICATION: US/09/545,334B TIME: 10:33:53

Input Set : A:\0803.SEQLIST.txt
Output Set: N:\CRF3\07262001\I545334B.raw

```
 71  gac gcc ggc ggc gag cag gtg tgg atc gac gtg ctg cgc gcg tct ctg      480
 72  Asp Ala Gly Gly Glu Gln Val Trp Ile Asp Val Leu Arg Ala Ser Leu
 73  145                 150                 155                 160
 75  gcg cgc ggc gtg gcg ccg cgc tcc tgg acc gac tac ctc tac ctc acc      528
 76  Ala Arg Gly Val Ala Pro Arg Ser Trp Thr Asp Tyr Leu Tyr Leu Thr
 77                  165                 170                 175
 79  gtc ggc ggc acg ctg tcc aac gca ggc atc agc ggc cag gcg ttc cgc      576
 80  Val Gly Gly Thr Leu Ser Asn Ala Gly Ile Ser Gly Gln Ala Phe Arg
 81              180                 185                 190
 83  cac ggc cca cag ata tct aac gtg ctg gag atg gac gtt atc acc ggc      624
 84  His Gly Pro Gln Ile Ser Asn Val Leu Glu Met Asp Val Ile Thr Gly
 85          195                 200                 205
 87  cat ggg gag atg gtg acg tgc tcc aag cag ctg aac gcg gac ctg ttc      672
 88  His Gly Glu Met Val Thr Cys Ser Lys Gln Leu Asn Ala Asp Leu Phe
 89      210                 215                 220
 91  gac gcc gtc ctg ggc ggg ctg ggg cag ttc gga gtg atc acc cgg gcc      720
 92  Asp Ala Val Leu Gly Gly Leu Gly Gln Phe Gly Val Ile Thr Arg Ala
 93  225                 230                 235                 240
 95  cgg atc gcg gtg gag ccg gcg ccg gcg cgg gcg cgg tgg gtg cgg ctc      768
 96  Arg Ile Ala Val Glu Pro Ala Pro Ala Arg Ala Arg Trp Val Arg Leu
 97                  245                 250                 255
 99  gtg tac acc gac ttc gcg gcg ttc agc gcc gac cag gag cgg ctg acc      816
100  Val Tyr Thr Asp Phe Ala Ala Phe Ser Ala Asp Gln Glu Arg Leu Thr
101              260                 265                 270
103  gcc ccg cgg ccc ggc ggc ggc ggc gcg tcg ttc ggc ccg atg agc tac      864
104  Ala Pro Arg Pro Gly Gly Gly Gly Ala Ser Phe Gly Pro Met Ser Tyr
105          275                 280                 285
107  gtg gaa ggg tcg gtg ttc gtg aac cag agc ctg gcg acc gac ctg gcg      912
108  Val Glu Gly Ser Val Phe Val Asn Gln Ser Leu Ala Thr Asp Leu Ala
109      290                 295                 300
111  aac acg ggg ttc ttc acc gac gcc gac gtc gcc cgg atc gtc gcg ctc      960
112  Asn Thr Gly Phe Phe Thr Asp Ala Asp Val Ala Arg Ile Val Ala Leu
113  305                 310                 315                 320
115  gcc ggg gag cgg aac gcc acc acc gtg tac agc atc gag gcc acg ctc     1008
116  Ala Gly Glu Arg Asn Ala Thr Thr Val Tyr Ser Ile Glu Ala Thr Leu
117                 325                 330                 335
119  aac tac gac aac gcc acg gcg gcg gcg gcg gtg gac cag gag ctc gcg     1056
120  Asn Tyr Asp Asn Ala Thr Ala Ala Ala Ala Val Asp Gln Glu Leu Ala
121              340                 345                 350
123  tcc gtg ctg ggc acg ctg agc tac gtg gaa ggg ttc gcg ttc cag cgc     1104
124  Ser Val Leu Gly Thr Leu Ser Tyr Val Glu Gly Phe Ala Phe Gln Arg
125          355                 360                 365
127  gac gtg tcc tac acg gcg ttc ctt gac cgg gtg cac ggc gag gag gtg     1152
128  Asp Val Ser Tyr Thr Ala Phe Leu Asp Arg Val His Gly Glu Glu Val
129      370                 375                 380
131  gcg ctc aac aag ctg ggg ctg tgg cgg gtg ccg cac ccg tgg ctc aac     1200
132  Ala Leu Asn Lys Leu Gly Leu Trp Arg Val Pro His Pro Trp Leu Asn
133  385                 390                 395                 400
135  atg ttc gtg ccg cgc tcg cgc atc gcc gac ttc gac cgc ggc gtc ttc     1248
```

RAW SEQUENCE LISTING DATE: 07/26/2001
PATENT APPLICATION: US/09/545,334B TIME: 10:33:53

Input Set : A:\0803.SEQLIST.txt
Output Set: N:\CRF3\07262001\I545334B.raw

```
136  Met Phe Val Pro Arg Ser Arg Ile Ala Asp Phe Asp Arg Gly Val Phe
137                  405                 410                 415
139  aag ggc atc ttg cag ggc acc gac atc gtc ggc ccg ctc atc gtc tac      1296
140  Lys Gly Ile Leu Gln Gly Thr Asp Ile Val Gly Pro Leu Ile Val Tyr
141              420                 425                 430
143  ccc ctc aac aaa tcc atg tgg gac gac ggc atg tcg gcg gcg acg ccg      1344
144  Pro Leu Asn Lys Ser Met Trp Asp Asp Gly Met Ser Ala Ala Thr Pro
145          435                 440                 445
147  tcg gag gac gtg ttc tac gcg gtg tcg ctg ctc ttc tcg tcg gtg gcg      1392
148  Ser Glu Asp Val Phe Tyr Ala Val Ser Leu Leu Phe Ser Ser Val Ala
149      450                 455                 460
151  ccc aac gac ctg gcg agg ctg cag gag cag aac agg agg atc ctg cgc      1440
152  Pro Asn Asp Leu Ala Arg Leu Gln Glu Gln Asn Arg Arg Ile Leu Arg
153  465                 470                 475                 480
155  ttc tgc gac ctc gcc ggg atc cag tac aag acc tac ctg gcg cgg cac      1488
156  Phe Cys Asp Leu Ala Gly Ile Gln Tyr Lys Thr Tyr Leu Ala Arg His
157                  485                 490                 495
159  acg gac cgc agt gac tgg gtc cgc cac ttc ggc gcc gcc gag tgg aat      1536
160  Thr Asp Arg Ser Asp Trp Val Arg His Phe Gly Ala Ala Glu Trp Asn
161              500                 505                 510
163  cgc ttc gtg gag atg aag aac aag tac gac ccc aag agg ctg ctc tcc      1584
164  Arg Phe Val Glu Met Lys Asn Lys Tyr Asp Pro Lys Arg Leu Leu Ser
165          515                 520                 525
167  ccc ggc cag gac atc ttc aac tga                                     1608
168  Pro Gly Gln Asp Ile Phe Asn
169      530                 535
172 <210> SEQ ID NO: 2
173 <211> LENGTH: 535
174 <212> TYPE: PRT
175 <213> ORGANISM: Zea mays
177 <400> SEQUENCE: 2
178  Met Ala Val Val Tyr Tyr Leu Leu Leu Ala Gly Leu Ile Ala Cys Ser
179   1               5                  10                  15
180  His Ala Leu Ala Ala Gly Thr Leu Ala Leu Gly Glu Asp Arg Gly Arg
181              20                  25                  30
182  Pro Trp Pro Ala Phe Leu Ala Ala Leu Ala Leu Asp Gly Lys Leu Arg
183          35                  40                  45
184  Thr Asp Ser Asn Ala Thr Ala Ala Ala Ser Thr Asp Phe Gly Asn Ile
185      50                  55                  60
186  Thr Ser Ala Leu Pro Ala Ala Val Leu Tyr Pro Ser Ser Thr Gly Asp
187  65                  70                  75                  80
188  Leu Val Ala Leu Leu Ser Ala Ala Asn Ser Thr Pro Gly Trp Pro Tyr
189                  85                  90                  95
190  Thr Ile Ala Phe Arg Gly Arg Gly His Ser Leu Met Gly Gln Ala Phe
191              100                 105                 110
192  Ala Pro Gly Gly Val Val Val Asn Met Ala Ser Leu Gly Asp Ala Ala
193          115                 120                 125
194  Ala Ala Ala Pro Pro Arg Val Asn Val Ser Ala Asp Gly Arg Tyr Val
195      130                 135                 140
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/545,334B

DATE: 07/26/2001
TIME: 10:33:53

Input Set : A:\0803.SEQLIST.txt
Output Set: N:\CRF3\07262001\I545334B.raw

```
196  Asp Ala Gly Gly Glu Gln Val Trp Ile Asp Val Leu Arg Ala Ser Leu
197  145                 150                 155                 160
198  Ala Arg Gly Val Ala Pro Arg Ser Trp Thr Asp Tyr Leu Tyr Leu Thr
199                  165                 170                 175
200  Val Gly Gly Thr Leu Ser Asn Ala Gly Ile Ser Gly Gln Ala Phe Arg
201              180                 185                 190
202  His Gly Pro Gln Ile Ser Asn Val Leu Glu Met Asp Val Ile Thr Gly
203          195                 200                 205
204  His Gly Glu Met Val Thr Cys Ser Lys Gln Leu Asn Ala Asp Leu Phe
205      210                 215                 220
206  Asp Ala Val Leu Gly Gly Leu Gly Gln Phe Gly Val Ile Thr Arg Ala
207  225                 230                 235                 240
208  Arg Ile Ala Val Glu Pro Ala Pro Ala Arg Ala Arg Trp Val Arg Leu
209                  245                 250                 255
210  Val Tyr Thr Asp Phe Ala Ala Phe Ser Ala Asp Gln Glu Arg Leu Thr
211              260                 265                 270
212  Ala Pro Arg Pro Gly Gly Gly Gly Ala Ser Phe Gly Pro Met Ser Tyr
213          275                 280                 285
214  Val Glu Gly Ser Val Phe Val Asn Gln Ser Leu Ala Thr Asp Leu Ala
215      290                 295                 300
216  Asn Thr Gly Phe Phe Thr Asp Ala Asp Val Ala Arg Ile Val Ala Leu
217  305                 310                 315                 320
218  Ala Gly Glu Arg Asn Ala Thr Thr Val Tyr Ser Ile Glu Ala Thr Leu
219                  325                 330                 335
220  Asn Tyr Asp Asn Ala Thr Ala Ala Ala Ala Val Asp Gln Glu Leu Ala
221              340                 345                 350
222  Ser Val Leu Gly Thr Leu Ser Tyr Val Glu Gly Phe Ala Phe Gln Arg
223          355                 360                 365
224  Asp Val Ser Tyr Thr Ala Phe Leu Asp Arg Val His Gly Glu Glu Val
225      370                 375                 380
226  Ala Leu Asn Lys Leu Gly Leu Trp Arg Val Pro His Pro Trp Leu Asn
227  385                 390                 395                 400
228  Met Phe Val Pro Arg Ser Arg Ile Ala Asp Phe Asp Arg Gly Val Phe
229                  405                 410                 415
230  Lys Gly Ile Leu Gln Gly Thr Asp Ile Val Gly Pro Leu Ile Val Tyr
231              420                 425                 430
232  Pro Leu Asn Lys Ser Met Trp Asp Asp Gly Met Ser Ala Ala Thr Pro
233          435                 440                 445
234  Ser Glu Asp Val Phe Tyr Ala Val Ser Leu Leu Phe Ser Ser Val Ala
235      450                 455                 460
236  Pro Asn Asp Leu Ala Arg Leu Gln Glu Gln Asn Arg Arg Ile Leu Arg
237  465                 470                 475                 480
238  Phe Cys Asp Leu Ala Gly Ile Gln Tyr Lys Thr Tyr Leu Ala Arg His
239                  485                 490                 495
240  Thr Asp Arg Ser Asp Trp Val Arg His Phe Gly Ala Ala Glu Trp Asn
241              500                 505                 510
242  Arg Phe Val Glu Met Lys Asn Lys Tyr Asp Pro Lys Arg Leu Leu Ser
243          515                 520                 525
244  Pro Gly Gln Asp Ile Phe Asn
```

RAW SEQUENCE LISTING DATE: 07/26/2001
PATENT APPLICATION: US/09/545,334B TIME: 10:33:53

Input Set : A:\0803.SEQLIST.txt
Output Set: N:\CRF3\07262001\I545334B.raw

```
245      530                 535
247 <210> SEQ ID NO: 3
248 <211> LENGTH: 51
249 <212> TYPE: DNA
250 <213> ORGANISM: Artificial Sequence
252 <220> FEATURE:
253 <223> OTHER INFORMATION: Synthesized based on sequence from Agrobacterium
254       tumefaciens
256 <400> SEQUENCE: 3
257  caucaucauc auggatccac caatggatct acgtctaatt ttcggtccaa c              51
259 <210> SEQ ID NO: 4
260 <211> LENGTH: 42
261 <212> TYPE: DNA
262 <213> ORGANISM: Artificial Sequence
264 <220> FEATURE:
265 <223> OTHER INFORMATION: Synthesized based on sequence from Agrobacterium
266       tumefaciens
268 <400> SEQUENCE: 4
269  cuacuacuac uagttaactc acattcgaaa tggtggtcct tc                        42
271 <210> SEQ ID NO: 5
272 <211> LENGTH: 29
273 <212> TYPE: DNA
274 <213> ORGANISM: Zea mays
276 <400> SEQUENCE: 5
277  catgccatgg cggtggttta ttacctgct                                      29
279 <210> SEQ ID NO: 6
280 <211> LENGTH: 31
281 <212> TYPE: DNA
282 <213> ORGANISM: Zea mays
284 <400> SEQUENCE: 6
285  cgggatcctc atcatcagtt gaagatgtcc t                                   31
287 <210> SEQ ID NO: 7
288 <211> LENGTH: 5622
289 <212> TYPE: DNA
290 <213> ORGANISM: Artificial Sequence
292 <220> FEATURE:
293 <223> OTHER INFORMATION: Promoter and terminator from Zea mays as found in
294       Genbank Accession #S78780; gene from Agrobacterium
295       tumefaciens as found in Molecular and General
296       Genetics 216:388-394 (1989).
298 <400> SEQUENCE: 7
299 gctctagatt atataattta taagctaaac aacccggccc taaagcacta tcgtatcacc      60
300 tatctaaata agtcacggga gtttcgaacg tccacttcgt cgcacggaat tgcatgtttc     120
301 ttgttggaag catattcacg caatctccac acataaaggt ttatgtataa acttacattt     180
302 agctcagttt aattacagtc ttatttggat gcatatgtat ggttctcaat ccatataagt     240
303 tagagtaaaa aataagttta aattttatct taattcactc caacatatat ggatctacaa     300
304 tactcatgtg catccaaaca aactacttat attgaggtga atttggtaga aattaaacta     360
305 acttacacac taagccaatc tttactatat taaagcacca gtttcaacga tcgtcccgcg     420
306 tcaatattat taaaaaactc ctacatttct ttataatcaa cccgcactct tataatctct     480
```

VERIFICATION SUMMARY DATE: 07/26/2001
PATENT APPLICATION: US/09/545,334B TIME: 10:33:54

Input Set : A:\0803.SEQLIST.txt
Output Set: N:\CRF3\07262001\I545334B.raw